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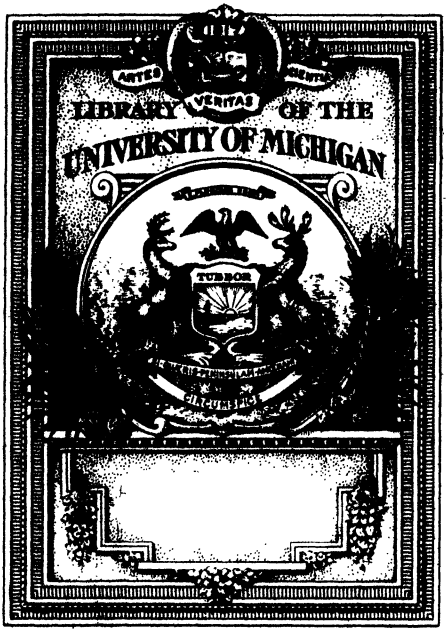

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March-April 15. YEAR 1915

The AMERICAN DENTAL JOURNAL

BERNARD J. CIGRAND, M. S., D. D. S.
Editor & Publisher & Proprietor.

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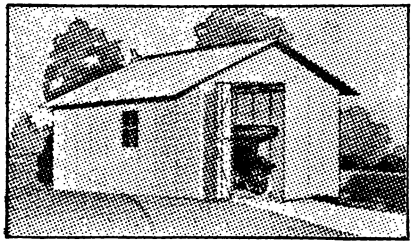

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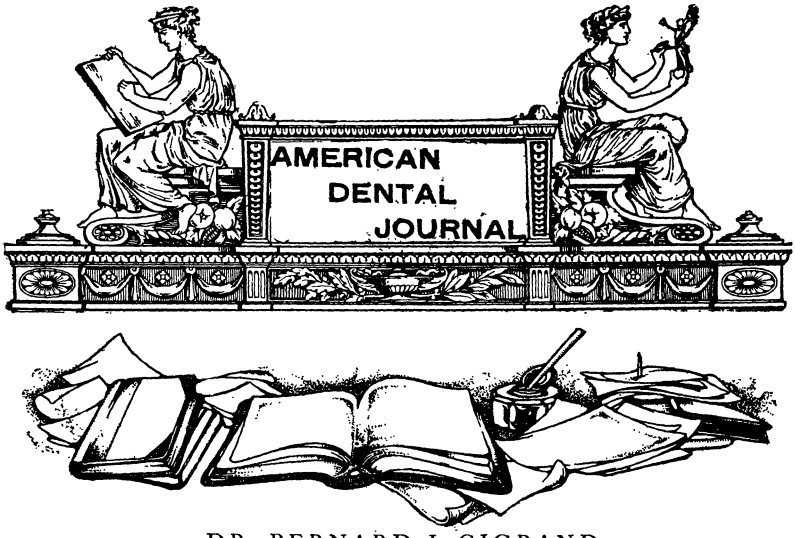


DR. BERNARD J. CIGRAND
EDITOR ** PUBLISHER ** PROPRIETOR
ENTERED AS SECOND-CLASS MATTER AT BATAVIA, ILL.

ARKANSAS PROTECTS THE PUBLIC AND PROFESSION

The dental profession of Arkansas have shown their wisdom in performing a service to both the public as well as themselves in getting a new dental law, which is the very best thus far enacted. THE AMERICAN DENTAL JOURNAL congratulates the entire profession on their splendid victory, and thanks the state organization for having placed upon the law books such a legal regulation of the practice of dentistry as has for the past six years been vigorously advocated in the editorials of this dental journal.

It afforded your editor pleasure to send the legislators of Arkansas packages of THE AMERICAN DENTAL JOURNAL containing editorials along progressive dental legislation. It will be only a short while before other states will follow the example of Arkansas, which on this phase of dental advance is miles

ahead of other states of the union. This law is absolutely ideal in countless ways, and carries into operation the many elements so earnestly advocated by this periodical.

Too much praise can not be given to Drs. J. D. Jordan of Little Rock (chairman), G. C. Jernigan of Rector, E. H. Johnson of Pine Bluff and R. T. Cook of Little Rock for the passage of this remarkable dental bill into a law.

These men, dutiful to the will and wish of the Arkansas State Dental Association, labored with a vim to raise the standard of the profession in Arkansas. While Illinois, Ohio and New York may lead in progressive technic and theory, it takes Arkansas to demonstrate how to handle politics and how to protect the public, and incidentally how to shield the profession against the lingo of the dental shark.

Say! reading dental laws for the most part is rather dry matter, but I have so arranged the material—cut out the unnecessary lines and left out the "repeating clauses"—that you will find it interesting and instructive. This new law respects every equity a practitioner can reasonably expect, and it affords your editor unusual pleasure to offer it to the readers.

In a digested form it reads as follows:

"SECTION 1. That the Arkansas State Board of Dental Examiners heretofore created be continued, to consist of five (5) practicing dentists, whose duty it shall be to carry out the purposes and enforce the provisions of this act as hereinafter specified. Members of the said board, who shall be known and styled "The Arkansas State Board of Dental Examiners," shall be appointed by the governor of the State of Arkansas; such appointments to be recommended by the Arkansas State Dental Association, all of whom shall be graduates of a reputable dental college, or the dental department of a reputable college or university; must be residents of the state for a period of five or more years; must be legally licensed to practice dental surgery or dentistry, and must have been actually engaged in the practice of dentistry immediately preceding their appointment for at least five years. Provided, however, that no person shall be eligible to appointment on the said board who is in any way

connected with or interested in any dental college, or the dental department of any institution of learning, or the dental supply business.

The terms for which the members shall hold office shall be five (5) years; provided that the present members of the said board in office at the time of the passage of this act shall continue in office until their respective terms expire, and until their successors are appointed and qualified.

On September 1, 1915, the governor shall appoint five (5) men recommended by the Arkansas Dental Association in open and regular meeting, with qualifications as specified elsewhere in this act, who shall constitute the State Board of Dental Examiners. The appointments of the same to be made as follows: One member shall be appointed for one (1) year; another for two (2) years; another for three (3) years; another for four (4) years; and on September 1st annually thereafter the governor shall appoint one member of the said board recommended by the Arkansas State Dental Association in open and regular meeting, whose term of office shall be for five (5) years.

All vacancies on said Board of Dental Examiners shall be filled by the governor.

SEC. 2. Said Board of Dental Examiners shall choose one of its members president and one as secretary-treasurer thereof at each annual meeting, to be held between the fifteenth (15th) day of May and the fifteenth (15th) day of July each year. Said board shall keep a record book, in which shall be registered the names, addresses and license numbers of all persons legally entitled to practice dentistry in the State of Arkansas.

SEC. 3. No person shall practice dentistry in the State of Arkansas, or attempt to do so, after the passage of this act without first applying for and obtaining a license for such purpose from the State Board of Dental Examiners, and registering such license as herein provided; and this provision shall apply to all persons, whether they have heretofore practiced dentistry in this state or not, except such persons as have been heretofore licensed and registered. Application for license shall be made to the said board in writing, and shall in every instance

be accompanied by an examination fee of fifteen ($15), which sum it is authorized to charge each applicant for each examination. The applicant must be at least twenty-one (21) years of age, of good moral character and reputation, and the application of each person seeking a license must be accompanied by evidence satisfactory to said board that the applicant so applying is a graduate of and has a diploma from a reputable dental college, or the dental department of some reputable school or university.

Examination must be both written and clinical, and of such a character as to thoroughly test the qualification of the applicant to practice dentistry, and the applicant in his examination must make the grade required by the board, which shall not be less than an average of seventy-five (75) per cent; and the board may also, in its discretion, refuse to grant license to any person found guilty of making false statement, cheating or of fraud or deception, either in applying for license or taking said examination.

SEC. 4. Any person licensed to practice dentistry or dental surgery in this state by the Arkansas State Board of Dental Examiners, as hereinbefore provided, shall personally and within ninety (90) days from the day of issue cause such license to be registered with the county clerk or county clerks of such county or counties in which such person desires to engage in the practice of dentistry or dental surgery, and the county clerks of the several counties of this state shall charge for registering such license a fee of fifty (50) cents for each registration; and it is hereby provided further that every person who engages in the practice of dentistry or dental surgery in this state shall cause his or her license to be registered with the county clerk before beginning the practice of dentistry in said county, to be at all times displayed in a conspicuous place in his or her office wherein he or she shall practice such profession.

SEC. 5. The county clerk of each county shall furnish annually, before the first day of December of each year, to the State Board of Dental Examiners, upon blanks to be provided

by such board, a duplicate list of all certificates received and issued by him during the preceding year; and shall include therein the date and issue of said certificate, the serial number, the name, the age and the residence of such person receiving the same.

SEC. 6. Any failure, neglect or refusal on the part of any person obtaining a license to practice dentistry or dental surgery from the said board to register said license with the county clerk of some county of this state, as above directed, within ninety (90) days from the date of the issue of the same shall work a forfeiture of such license; and no license, when once forfeited, shall be restored except upon a payment to the said board of the sum of fifteen ($15) dollars for such neglect, failure or refusal to register such license, and the surrender of the forfeited license.

SEC. 7. The State Board of Dental Examiners may refuse license, or suspend or revoke the same, for any of the following causes:

1. The presentation to the board of any diploma, license or certificate illegally or fraudulently obtained, or one from an institution which is not reputable, or from an unrecognized or irregular institution or state board, or obtained by the practice of any fraud or deception.

2. The publication or the circulation of any fraudulent or misleading statement as to the skill or method of any person or operator.

3. The commission of a criminal operation, or conviction of felony, or chronic or persistent inebriety or drunkenness, or confirmed drug habit, or in any way advertising to practice dentistry or dental surgery without causing pain, or advertising in any other manner with the view of deceiving or defrauding the public, or in any way that will tend to deceive the public, or in using or advertising as using any drug, nostrum or patent proprietary medicine of any unknown formula, or any dangerous or unknown anesthetic which is not generally used by the dental profession, or using or advertising as using any drugs, material, medicine, formula or anesthetic which is either falsely advertised, misnamed or not in reality used.

4. The employment in the practice of dentistry of any unlicensed person; the violation of any of the provisions of this act, or the refusal to comply with any of the said provisions.

Nor shall said dental board relicense anyone whose license has once been revoked for any of the above causes within one year after such revocation; and only then upon sufficient assurances and guarantees to the said board of correct conduct for the future. A second revocation of any license shall be perpetual.

SEC. 8. In all proceedings for a suspension or a revocation of license the holder of said license shall be given thirty days' notice to prepare for hearing, and he shall be heard in person, or by counsel, or both. Said board shall have full power to make any by-laws or necessary regulations for the fulfillment of their duties under this act.

SEC. 9. In order to provide the means of carrying out and enforcing the provisions of this act the said board shall charge each person applying to it for examination for a license to practice dentistry or dental surgery in this state an examination fee of fifteen ($15) dollars. The members of said board shall receive as compensation the sum of eight ($8) dollars for each day actually engaged in the duties of the office, and shall be reimbursed for all legitimate and necessary expenses incurred in attending the meetings of said board; provided that the secretary of the board, for the purpose of enforcing the provisions of this act, shall receive a salary, to be fixed by the board, not to exceed twenty-five ($25) dollars per month, instead of the per diem of eight ($8) dollars. All expenses shall be paid from the fees, fines and penalties received and recovered by the board under the provisions of this act; and no part of said expense shall be paid out of the state treasury. All money received in excess of said per diem allowance and other expenses herein provided shall be held by the secretary of the said board as a special fund for meeting the expenses of said board.

SEC. 10. One-half of all money received in excess of said per diem allowance and all other expenses herein provided for shall be held by the secretary-treasurer of said board as a

special fund for such use as the said board may deem necessary in the enforcement of this act; and one-half of said excess so received shall be paid over by the said board to the public school fund of the State of Arkansas.

SEC. 11. For the purpose of correcting and revising the register of the legal practitioners of dentistry, as kept by the State Board of Dental Examiners, it shall be the duty of each person registered or licensed by the board to practice dentistry in this state to procure from the secretary of the board on or before November 1, 1912, and on or before November 1st annually thereafter, a certificate of registration; such certificate shall be issued by the secretary of said board upon payment of the fee of one ($1) dollar. Any certificate or license heretofore granted, or that may be hereafter granted, by the board shall be canceled if the holder thereof fails to secure renewal of the certificate herein provided for within a period of six months after November 1, 1915, and annually thereafter. License may be restored by paying fifteen ($15) dollars, without further examination of the holder as to his competence and ability to practice.

SEC. 12. That all dentists or dental surgeons now legal practitioners of dentistry or dental surgery in this state, or those who may hereafter become such, shall be exempt from service as jurors in any of the courts of this state.

SEC. 13. It shall be unlawful for any person or persons to practice or offer to practice dentistry or dental surgery under any name except his or her own name, or to use the name of company, association, corporation or business name, or to operate, manage or be employed in any room or rooms, or office, where dental work is done, or contracted for, under the name of any company, association, trade name or corporation.

SEC. 14. Any dentist who has been lawfully licensed to practice dentistry or dental surgery in another state or territory which has and maintains a standard of proficiency equal to that now maintained in this state under the provisions of this act, and who has been lawfully and continually engaged in the practice of dentistry or dental surgery for five years next

preceding the filing of his application, and is desirous of moving to this state, and shall deposit in person with the secretary of the State Board of Dental Examiners a duly attested certificate from an examining board of the state in which he or she is registered, certifying the fact of his or her registration, and his or her good moral character and professional attainments, upon the payment of a fee of twenty-five ($25) dollars, may, at the discretion of the State Board of Dental Examiners, be granted a license certificate to practice dentistry in this state; provided, however, that no license shall be issued to any such applicant unless the state or territory issuing the certificate to such applicant shall have extended a like privilege to engage in the practice of dentistry or dental surgery in within its own borders to dentists heretofore and hereinafter licensed by this state and removing to such other state.

SEC. 15. Any person of good moral character who is a legally registered and practicing dentist in this state for a period of five years preceding his or her application for a certificate hereinafter described, and who is known to the board of dental examiners of this state, and the payment of a fee of five ($5) dollars, will be entitled to receive a certificate; provided that all such certificates so issued shall be like in tenor and form; provided, further, that the refusal of any state, or of its appropriate officers, to fully honor such certificate shall constitute a forfeiture by such state of all courtesies and privileges extended under this act.

SEC. 16. All licenses issued by said State Board of Dental Examiners shall bear a serial number, the full name of the applicant, the date of the issue, the seal of the board, and shall be signed by all members of said board, and be attested by the president and secretary.

SEC. 17. Any person who shall practice or attempt to practice dentistry or dental surgery within the State of Arkansas without having been registered or licensed for that purpose, or during the period of suspension or revocation of the license previously granted, or who shall violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon

conviction thereof shall be fined not less than fifty ($50) dollars nor more than two hundred ($200) dollars, or shall be imprisoned in the county jail not less than one month nor more than one year, or shall be punished by both such fine and imprisonment. Each act of practice or attempt to practice dentistry under the disabilities described in this section shall be deemed a separate offense within the meaning of this act.

SEC. 18. Nothing in this act shall prevent a legally qualified and licensed physician or surgeon, unless he practices dentistry as a specialty, from extracting teeth, or a legal practitioner of another state from making a clinical demonstration before a dental society, or at a convention or dental college; nor shall this act prevent students from practicing or performing dental operations, under the supervision of competent instructors, in any dental college or dental department of any school or university recognized by the Arkansas State Board of Dental Examiners.

SEC. 19. Legally licensed druggists of this state may fill prescriptions of legally licensed dentists of this state for any drug necessary in the practice of dentistry.

SEC. 20. If the license herein provided for is lost or destroyed, so that the same can not be exhibited, as provided in section 5 hereof, the person entitled thereto shall make written application to the secretary of the board for reissuance of the same; and upon receipt of such satisfactory application and an affidavit concerning said loss the secretary shall issue to the said applicant a duplicate license, for which there shall be paid a fee of one ($1) dollar.

SEC. 21. Any person filing or attempting to file as his own the diploma or license of another, or a forged false affidavit of identification or qualification, shall be deemed guilty of a felony, and upon conviction thereof shall be subject to such fine and imprisonment as are imposed by the statute for the crime of forgery.

SEC. 22. A reputable dental college must posses the following qualifications:

1. It shall be chartered under the laws of the state in

which it is located and operated, and shall be authorized by its charter to confer the degree of "Doctor of Dental Surgery" or "Doctor of Medical Dentistry."

2. It shall deliver annually a full course of lectures or instructions by a competent faculty or corps of instructors on the following subjects: Anatomy, chemistry, physiology, histology, materia medica, therapeutics, dental metallurgy, pathology, bacteriology, operative dentistry, prosthetic dentistry, crown and bridge work, orthodontia, oral surgery, oral hygiene and the administration of anesthetics. Said courses of instruction shall consist of not less than three terms in separate academic years, and of not less than thirty-two (32) weeks of six days each for each term.

3. It shall possess apparatus and equipment adequate and sufficient for the ready and full teaching of the above named subjects.

4. It shall be recognized as being reputable by the Board of National Dental Examiners before being recognized as such by the Arkansas State Board of Dental Examiners.

SEC. 23. The governor shall be empowered to remove from office any time any member of the said dental board for continued neglect of duty, required by this act, or for incompetency, unprofessional or dishonorable conduct.

SEC. 24. Any person shall be regarded as practicing or attempting to practice dentistry who acts as manager, proprietor or conductor of a place for performing dental operations, or who, for a fee, salary or other reward paid to or to be paid to him or her or another person performing dental operations of any kind, shall use the word "dentist" or "dental surgeon," the letters "D. D. S.," or any other letter or title in connection with his or her name which in any way represents him or her as being engaged in the practice of dentistry or dental surgery, or who shall diagnose or profess to diagnose, or examine and contract for the treating of, or who shall treat or profess to treat, or advertise as treating, any diseases or disorder or lesions of the oral cavity, teeth, gums, maxillary bones, or extract teeth, or repair or fill cavities, or who shall correct

malpositions of the teeth or jaws, or supply artificial teeth as substitutes for natural teeth, or administer an anesthetic, general or local, or in any other way engage in the practice included in the curricula of recognized dental colleges; provided, however, that nothing in this section shall conflict with the meaning of section 18 of this act.

SEC. 25. All laws and parts of laws in conflict with this act are hereby repealed.

SEC. 26. This act shall take effect immediately after its passage, the public welfare requiring it."

This law puts into effect the things which this journal has been contending for during the past six years; and any state dental society which wishes to bring about similar improved dental conditions will find THE AMERICAN DENTAL JOURNAL eager to assist by giving the legislators an instructional course on this subject. For only by a campaign of education can progressive legislation be established.

Again congratulations to the profession of Arkansas.

COMMENT

The government has sent a supply of the Harrison law, and directed the same to be inserted in THE AMERICAN DENAL JOURNAL. Every dentist should read every word of this law.

* * *

According to *Merck's Archives*, Dr. Grandclement has successfully treated several cases of tic douloureux with hypodermic injections of antipyrin and cocain in combination.

* * *

"Doc" White, the dentist and great baseball player, will some day have a dental rival. In fact, he has one now in a rather unprofessional way.

This young man is Mr. Ray Grant, dental student of Philadelphia, star football, star basketball and baseball player.

Grant has a wonderful record as a catcher when a school-

boy in New England, but he has not had a chance to show his ability on the diamond for the Red and Blue.

The Braves' pilot writes that he has heard of Grant's record in scholastic ranks, and would like him to play professional ball with his club during the coming season.

"Although it is certainly tempting to get an offer to play with the world's champions," said Grant, "I am going to refuse. I came to Penn to study dentistry, and I intend to finish my course."

Manager O'Neill, of the Holyoke Club of the New England League, has seen Grant in action often, and is of the opinion that he is the best schoolboy catcher in America.

Somehow I like baseball; pitched many a game myself, and there are thousands of dentists who when lads stood on the diamond and received their earliest training in the ethics of life. Long live baseball—real American game!

* * *

Dr. Leslie E. Pitcher, of Neillsville, Wis., has disappeared, and has not been heard from since last March, when he was at Niles, Mich. If you know where he is, or what has happened to him, communicate with the editor of THE AMERICAN DENTAL JOURNAL.

* * *

The prize ring, too, claims a dentist as the coming attraction. Is it progressive or retrogressive?

Leach Cross, who was a dentist before he got into the fight game, says he has lost all interest in the art of dental surgery. Since December 11, 1911, Leach has engaged in nineteen fights, and has cleaned up $26,000.

In discussing his change of vocation Cross says:

"Why, I would have to yank all of the teeth in the Bronx and put in crockery to make that much in a year."

The Bronx is that part of New York City in which Cross lives, and has a population of 500,000.

* * *

There are fourteen fewer medical schools in the United States than there were a year ago; 1,200 fewer persons studied

medicine in 1913 than in 1912, and there was a decrease of 500 in the number of medical graduates, according to figures compiled at the United States Bureau of Education.

An interesting feature of the statistics is the part played by women. Although the total number of medical students has decreased, the number of women studying medicine has increased. In 1912 there were 18,451 medical students, of whom 712 were women; in 1913 there were 17,238 students, of which 835 were women. Only seventy women graduated this year, however, as compared with 142 in 1912.

* * *

In recent spelling matches two words, both of dental association, floored the rivals. The contests were in different states, and the words were "tic douloureux" and "caoutchouc." How would these same contestants enjoy a course in dentistry?

* * *

Students who are reasonably certain of graduating soon will find it worth their attention to look over the following summary regarding dental opportunities:

State	Dentists	People to each Dentist	Physicians	People to each Physician
Arizona	64	3,193	247	868
Arkansas	359	4,386	2,596	606
California	1,903	1,249	4,767	499
Colorado	492	1,624	1,772	451
Connecticut	611	1,824	1,564	713
Delaware	80	2,529	246	822
District of Columbia	342	939	1,350	245
Florida	273	2,755	974	773
Georgia	630	4,141	3,022	863
Idaho	176	1,850	420	775
Illinois	3,203	1,760	9,988	565
Indiana	1,245	2,178	4,984	565
Iowa	1,198	1,858	3,653	609
Kansas	834	2,028	2,688	625
Kentucky	786	2,914	3,601	636
Louisiana	454	3,648	1,930	858
Maine	403	1,842	1,176	631
Maryland	578	2,241	1,972	657
Massachusetts	2,060	1,634	5,648	593

Michigan	1,421	1,972	4.104	685
Minnesota	933	2,225	2,262	918
Mississippi	343	5.939	6,032	298
Missouri	1,377	2,392	6,037	546
Montana	214	5,757	512	734
Nebraska	637	1,825	1,796	664
Nevada	45	1,819	144	659
New Hampshire	217	1,984	704	612
New Jersey	928	2,734	2,884	880
New Mexico	75	4,364	430	761
New York	4,270	2.135	14,815	615
North Carolina	430	5,131	1,849	1,193
North Dakota	179	3,224	594	973
Ohio	2,190	2,177	7,513	635
Oklahoma	326	3,243	2,620	633
Oregon	449	1,498	1,041	646
Pennsylvania	3,229	2,374	11,345	676
Rhode Island	278	1,952	751	723
South Carolina	360	4 209	1,275	1,189
South Dakota	200	2,919	651	897
Tennessee	560	3,920	3,338	655
Texas	940	4,145	5.888	655
Utah	208	1.795	427	874
Vermont	149	2,388	679	524
Virginia	449	4,592	2,359	874
Washington	611	1.869	1.630	701
West Virginia	375	3,156	1,639	745
Wisconsin	1,181	1,916	2,652	880
Wyoming	57	2,561	235	621

Many of the subscribers are sending in the names of prospective dental students. The publisher will credit you with 25 cents for each name, and this will admit of your paying a year's subscription to THE AMERICAN DENTAL JOURNAL.

We must impress dentists that back numbers of THE AMERICAN DENTAL JOURNAL will cost 25 cents per copy. The only way to be sure of better service is to pay $1 and get twelve (12) (xii) copies, or a year's subscription.

FIFTY cents, or one-half of a dollar, will give you THE AMERICAN DENTAL JOURNAL for six months.

ORIGINAL CONTRIBUTIONS

MOUTH INFECTION AS A SOURCE OF SYSTEMIC DISEASE

By C. H. Mayo, M. D.

[This article by C. H. Mayo, of Rochester, Minn., was read before the dental branch of the American Medical Association, and it was published in the December issue of the journal of the American Medical Association. Read it, and learn how advanced medical men regard the subject of dental care and oral attention. The *International Journal of Orthodontia* and the *Dental Summary*, also, give this paper consideration.—Editor.]

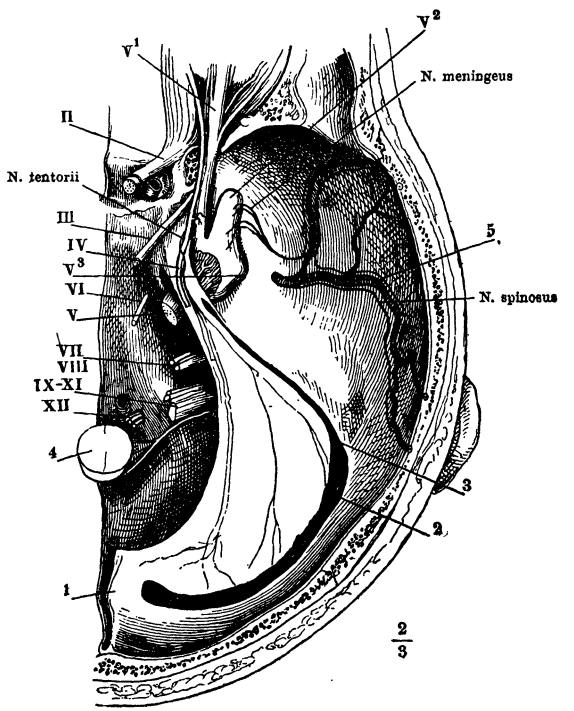
It has taken a long time for the general public to appreciate the full role of infection in the production of death, while, even in the medical profession, more has come from the study of infections in the prevention of disease than increasing the means of disease, great as have been the results of treatment.

Since all animal life depends on some other form of cell life, vegetable or animal, it seems but the part of all life to carry on this process of germinative development and maturity. It is only the resistance of healthy cells that prevents the inroads of the myriads of ever-present bacteria and animal parasites which are striving to get a foothold, that they may, in turn, carry on their life work. Disease, then, is an inflammatory process from infection and the efforts at repair. It may also be chronic, from the failure of cell life, through lack of defense, from defective nutrition and advancing age.

We still speak more or less lightly of the so-called diseases of childhood, and the time is not far past when mothers took their children to be exposed to whooping cough, mumps, etc. Today the intelligent woman knows that it is not necessary that the vitality of the child should be jeopardized by such preventable diseases, and that when they occur it is through carelessness, neglect or ignorance on the part of some one.

A comparatively small number of infections occur through

wounds of the cutaneous surface. Many of those affecting the special organs are incurred through direct or indirect contact, as those of the eye and of the genito-urinary system. They may make most serious inroads on the general health. Infections which produce the greatest number of diseases enter the system by way of the alimentary and respiratory tracts. Some-



where in the line, then, of the alimentary and respiratory tracts, and in the excretory ducts of the body lie the sources of the entrance of organisms, which terminate life in the majority of instances. The great importance of the well-known diseases of the nasal passages with their sinuses, the lymphoid tissue of the pharynx, including the tonsils, and the diseases of gums and teeth, which have been given prominence by the dental

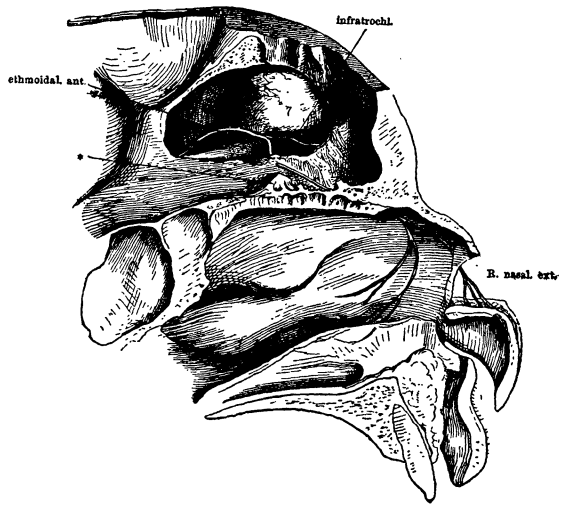
profession during the last three years, is now more generally appreciated.

The mouth is the harbor of many varieties of bacteria which are constantly taken into the stomach during the process of eating. We have long looked on the acids of the stomach as destructive to such bacteria, but Smithies, in a microscopic examination of gastric extracts from 2,406 different individuals with "stomach complaint" (dyspepsia, indigestion and the like), showed that, irrespective of the degree of acidity of such gastric extracts, bacteria were present in 83 per cent. Morphologically cocci and diplococci were present in 87 per cent; short and long rods (often of the colon group) in 58 per cent; typical streptococci and staphylococci in 17 per cent, and *Leptothrix buccalis* in 24 per cent. In fifty-four cultural studies of saliva from "dyspeptic" patients, streptococci and staphylococci were demonstrated in over 80 per cent, bacilli in 66 per cent and *Leptothrix buccalis* in more than 14 per cent. Comparing these figures, it would appear that the common forms of pus-producing organisms (streptococci and staphylococci) have their proliferation retarded in gastric juice, but that bacilli (often of the colon group), as well as *Leptothrix buccalis*, thrive in the stomach.

Bacteria of various forms live in the small intestine, or at least pass through it or into the blood stream by way of the mucuous membrane. They exist in such great numbers in the large bowel that, whether living or dead, they constitute a considerable part of the dejecta. During the last few years some important points have been added to our knowledge of bacteria. Living germ life in the blood, or bacteremia, occurs in all infectious diseases. According to their number and virulence, the blood responds in slight or extreme degree to the symptoms, general or local, constituting the disease.

We have long known that bacteria were specified in type and action in all diseases in which we have been able to identify a specific germ. Rosenow has done a great work in showing that changes in environment may so change bacteria that specific action varies. The appearance of the bacteria is also unlike that of the original cell. In the blood stream these vari-

ous forms, once they enter it, are selective in choosing their location, thereby developing specific local disease. The old "idiopathic" osteomyelitis of the child we now know may follow a short time after a specific tonsilitis. Pyorrhea, tonsilitis or sinus disease may be the source of an infection which we call rheumatism. Root abscesses and pus pockets connecting with them are often the source of acute and chronic rheumatism. The nasal sinuses and chronic mouth and throat infections develop anaphylaxis from the constant poisoning, and their results are shown in hay fevers, asthmas, urticarias, etc.



Rosenow's work is going far to show that ulcerations of the stomach are conditions in which the mucosa is attacked from behind through the blood stream by bacteria which live in the blood and have a selective affinity for these particular areas. Septic bile which, in the majority of instances, is caused by infection, is carried to the liver through the portal circulation. It creates such changes in the bile that it fails to activate the pancreatic and duodenal secretation, thus making various phases of indigestion, with qualitative rather than quantitative food trouble. Lower down we have the appendix, with its lymphoid

tissue, which approximates in character that of the tonsil. Here the acid types of bacteria have the same opportunity, could they but enter the blood stream, of making erosions of the gastric mucosa as the specific form which is found in the mouth. We may here note that acid-creating or acid-bathed surfaces are very subject to cancerous change, while alkaline-bathed surfaces are very much less liable to be involved. Saliva is neutral or slightly alkaline in health, yet less than 20 per cent of people have healthy mouths. The infected mouth shows a tendency to the acid reaction and it is through this acid change that we have an additional danger in cell degeneration, of malignant type, from chronic irritation.

The stomach is the most common location of all cancers, while the alkaline small intestine is rarely subject to cancer and the duodenum is most resistant to it. The large bowel again reverts to an acid reaction and is very subject to cancer. So also is the bladder. These structures with acid secretions are of more recent development than are many tissues of ani-animal life, several of them being classed as organs of convenience, which fact renders them possibly less resistant.

Certainly enough is known concerning infections and their mode of entrance, that the infected and diseased mouth and respiratory tract must be looked on as most serious menaces. Much may be done by more general and effective school inspection. The present generation of children will understand and demand protection for their children in time. The first teeth should be watched, that the second be not permitted to erupt irregularly, causing deformities. Jaws should be spread, that the teeth may meet, and the high arch palate, diminished nasal breathing, thereby reduced. Tonsills and adenoids should be looked after, thus preventing ear and mastoid diseases, rheumatism, endocarditis, etc. In chronic and recurring diseases, a search must be made to establish positively the non-participation of each of the several sources of infection.

The physicians engaged in this line of observation require fully as much training in the rudiments of dentistry as the dentist does in the signs of infectious diseases. While we have

leaders in all professions, through the energy of their kinetic glands, the big stick which leads to our advancement is in the hands of the progressive and educated public, who are constantly demanding more of their dentists, of the medical profession, and of the state, in protecting them against preventable diseases.

EVOLUTION OF THE DENTAL INLAY

BY DR. B. J. CIGRAND

(Continued from page 324)

In 1894, while treating of casting of aluminum dental cases the following reading matter occurs on page 124 of "Cigrand's Compendium of Dental Prosthesis": "Now place the flask containing the aluminum on the gasoline (or other hot flame), and permit the moulds to become thoroughly dry; when moisture no longer appears, attach to the upper portion of the reservoir a rubber tube (protected with asbestos), on the end of which there is connected a rubber bulb. The aluminum by this time has melted, and with the right hand on the rubber bulb *give steady, gentle pressure*, thus forcing the molten metal or aluminum into the dental mould; as the metal appears on the vent, with your left hand drip a few drops of water on the metal, while with right hand still pressing the bulb."

Much of the information I have given is not to be found in our journals. An interesting find was a dental mould, designed by Dr. Hayford, for use in manipulating Weston's, Watt's and Hayford's alloys, and patented by him in 1884, by the use of which, it is claimed, all imperfections caused by air bubbles or failure of the material to cast sharply are overcome. The metal is introduced with the flask partly open, and just before crystallization commences pressure is applied by means of the lever, which closes the flask and forces the material into every portion of the mould, producing a sharp, perfect casting.

The principle of enlarging the posts of crowns to conform to the trimmed or reamed root canal dates back many years. My earliest efforts were directed to placing wax on the post, in-

serting same in the prepared canal, and by this means getting the exact impression of the canal; then I inserted the wax and encased post with the Logan crown in the dental flask; after freeing same from the wax I packed in rubber and vulcanized it, thus giving me a perfect fit in the enlarged canal; then with a sparing amount of cement the crown was definitely located. This method for using vulcanite was rather laborious, and took too much time, though it did save roots and gave every possible satisfactory result. Then I resorted to the Carroll apparatus, and instead of casting the enlargement in gold I used aluminum. This was also very satisfactory, and the method was brought before my classes.

In the September '08 editorial of the AMERICAN DENTAL JOURNAL, I closed the article with the following:

"In the foregoing article, which your editor published in *The Bur*, (July 1908), he gave accurate dates and employed quotation marks, an art which too few writers care about, and many articles in recent months have taken whole pages of the foregoing without giving credit for my research work, which, in justice to my labor, deserves mentioning. Ethics in authorship does not stop at mere copying of quotation, but exacts that you should mention the person or writer who gave you the quotation.

"When the article appeared in *The Bur* many of my correspondents asked; "Does not that article annul Dr. Taggart's patent?" I answered: "The article aimed at disclosing facts as found in books, and does not intend anything or other than bringing historical incidents into harmony with truth. Dr. Taggart's rights, his patents and his discoveries are legal matters, and if he has been wise enough to obtain a patent on a problem or practice which was floating loosely and unprotectedly about, that is his business, and only a court, and not an editor, can decide.

"And the above will be the natural, legal and logical way out of the woods. But whether Dr. Taggart wins or loses, he has done wonders in the manner of revolutionizing the methods of restoring teeth by gold inlays.

"The editor of THE AMERICAN DENTAL JOURNAL, in this

theme—like other problems before the profession—will continue to give the readers the facts, and fearlessly advocate such policies as are in harmony with the best interests of the profession."

What you have just read, and which is marked by quotation, forms the editorial which I wrote for the July, August and September AMERICAN DENTAL JOURNAL, and based in its major portion on an article I wrote for the "Bur" and appeared in that dental periodical in July 1908, six and one-half years ago.

CEPHAELIS IPECACUANHA AND EMETINA

BY A. R. DEACON

[This article, written for THE AMERICAN, is the latest on emetina. If you are interested in the latest and most approved method of treating pyorrhea, read what this observer has to say. The logic is deserving of attention.—EDITOR.]

A very full account of the early history of this plant is given in Pereira's "Materia Medica," Vol. II, 1856, from which much of the following data is abstracted:

"Great confusion existed for a long time respecting the plant yielding ipecacuanha, but in the year 1800 Gomez returned from the Brazils to Lisbon, bringing specimens of the plant with him, upon which he published a dissertation.

"The plant is abundant in the valleys of the granitic mountains which run through the provinces of Rio Janeiro, Espirito Santo and Bahia from 8 to 20 deg. south latitude. The roots are gathered most frequently during January, February and March. The native Indians are very assiduous in the collection of it.

"The Coroados, who inhabit the region of the River Xipoto in the province of Minaes, as well as their neighbors, the Puri, are the greatest collectors of it. They sometimes leave their villages for two or three months at a time, camping in those places where the plant abounds. They cut the roots from the stems, dry them in the sun, and pack them in bundles of various sizes and forms.

"Emetina, when discovered by Pelletier and Magendie in 1835, was termed 'la matiere vomitive.' Pure emetina is an amorphous white powder, inodorous, of slightly bitter taste, very slightly soluble in cold, but more so in hot water. It dissolves readily in alcohol, but is insoluble in solutions of carbonated alkalies."

Approximately one and a half per cent of emetina is present in Rio Ipecac.

"The effect of pure emetina is very energetic—two grains are sufficient to kill a dog. Emetina has been proposed as a substitute for ipecacuanha as a remedial agent, all the advantages of which it is said to possess in a much smaller dose. I confess, however, I think very little advantage is likely to be gained by the substitution."

Ipecacuanha has been known and prized as a remedy for dysentery for several hundred years. It is relied upon almost to the exclusion of other treatments in many tropical countries. Dr. Ewart, writing upon its value, says:

"When ipecacuanha fails to preserve the life of the patient its failure may be generally attributed to certain co-existing diseases. The profession is indebted to Mr. Scott Docker, of the Royal Fusiliers, stationed at Mauritius—*London Lancet*, July 31 and August 14, 1858—for a revival of the employment of the ipecacuanha treatment in the congestive exudative and ulcerative stage of almost every form and type of acute dysentery. Its advantages consist of its safety, its simplicity and its certainty, as compared with any other method of treatment. The promptitude with which the inflammation is stopped—the rapidity with which repair takes place—by resolution or by granulation and cicatrization—conservation of constitutional powers and abbreviation of the period required for convalescence."

Text-books upon materia medica and therapeutics show a remarkable degree of success following the employment of ipecac for generations, and the reports of the extended experience of Dr. Edward B. Vedder—*Journal of the American Medical Association*, Vol. LXII, No. 7—with the exhibition of ipecac

and its alkaloid emetina in the treatment of amœbic dysentery, fully justify his concluding statement: "Emetina is a true specific for that disease."

Closely following this tribute to the value of ipecacuanha by Dr. Vedder, there appears in the *Dental Cosmos*,—Vol. LVI, No. 8—a paper which is stated to be in the nature of a preliminary report upon "The Protozoa of the Mouth in Relation to Pyorrhea Alveolaris" by M. T. Barrett, D.D.S., in collaboration with Dr. Allen J. Smith, of the Uuiversity of Pennsylvania. The report deals with forty-six cases of suppurative affection of the gums and pericemental tissue, which, upon examination, disclosed the presence of parasite amœba and their effective removal under the exhibition of a few doses of emetina—resulting in apparent cure.

Such positive results, so quickly and readily secured, send a ray of hope and encouragement to all workers in the field of dental therapy that a successful method of treatment has been discovered for a disease of rapidly advancing prevalence and of recognized significance as a menace to the general health of the people.

Following the published report of the researches of Drs. Barrett and Smith there appears in the February 13th issue of the *Journal of the American Medical Association* an article entitled "The Specific Cause and Treatment of Pyorrhea Dentalis and Alveolaris," by Drs. C. C. Bass and F. M. Johns, of New Orleans. This important history of scientific research into the determination of the relation of endamœbas as the cause of the disease and the influence of emetina and ipecac as as a specific remedy, will prove of intense interest to the dental profession, and the suggestions given for the mode of administration of the remedy will be a greatly appreciated aid to those desiring to put the new methods of treatment into effect.

The appreciation in which these discoveries are held by teachers in dental therapy is well exemplified by the concluding lines in an article appearing in the current issue of the *Dental Cosmos* from the pen of Professor Hermann Prinz, of the Pennsylvania School of Dentistry, as follows: "The discovery

of endamœbas in pyorrheal pus and the subsequent treatment of this disease with emetina, as recorded by Drs. Smith and Barrett, and independently verified by Drs. Bass and Johns, and by many other observers, is an attainment of patient scientific investigation which is deserving of the unrestricted praise of the dental and medical professions the world over."

Coupled with these reports of positive and definite results achieved by the use of ipecac are some words of warning of possible and probable relapse and reinfection; indeed a fairly large percentage of cases treated presented appearances of recurrence of the disease within a few weeks; and this in spite of prophylactic measures consisting of one minim of fluid extract of ipecac in four ounces of water—approximately a 1 to 200,000 emetina solution, as the fluid extract of ipecac represents from 2 to 2¼ per cent of alkaloids, about one-half of which would be emetina—this solution being used by the patient as a mouth-wash, and syringed into the pyorrheal pockets.

Considering the length of time and frequency with which ipecac has been used by the medical and dental profession, it appears somewhat singular that its specific effect upon pyorrhea has until so recently escaped notice. In the "American System of Dentistry," edited by Wilbur F. Litch, D.D.S., and published in 1887, there appears in the article upon Ipecacuanha the following note:

"In dental practice its employment is almost entirely confined to its administration in combination with opium in the *treatment of inflammation* of the *peridental membrane.*"

Conclusive evidence having been presented that endamœbas are almost uniformly present in pyorrheal pus, and that ipecac in attenuated dilution is a singularly efficient endamœbacide, the treatment of amœbic pyorrhea assumes definite proportions—the one seemingly discouraging note relating to tendency to recurrence of the disease due to unhealed lesions is to be expected.

Now that it has been successfully determined that endamœbæ constitute a specific cause of pyorrhea, and that ipecac is the specific remedy, there still remains to be determined the specific cause of endamœbæ.

A solution of this important question would seem to be

within measurable degree of determination, if it has not indeed been discovered in advance of the discovery of the indicated remedy, through the elaborate series of experiments on the composition of the saliva conducted by Dr. H. P. Pickerill, of New Zealand, and published in a volume entitled "The Prevention of Dental Caries and Oral Sepsis." This book, the first edition of which was exhausted almost immediately upon its publication, directs attention to the importance of quantitatively and qualitatively normal saliva in the protection of the teeth, mucosa and tissues of the oral cavity, and clearly demonstrates the influence upon the saliva of certain stimuli and depressants common to certain articles of food, drink, dentifrices, etc.

The use of alkaline or antiacid tooth powders is unqualifiedly condemned, and such alteration to the quality of the saliva and to the quantity produced by the salivary glands is attributed to their continuous use, as may logically account for the production and presence of endamœbæ as a resulting process of the retrograde metamorphosis induced in tissues subjected to such continuous maltreatment.

Conclusions deducted from his series of experiments with alkaline dentifrices are concisely summarized by Dr. Pickerill in the following paragraph abstracted from his book:

"The use of alkaline dentifrices for the prevention of caries is wrong, is physiologically incorrect, unscientific and empirical; and not only so, but also actually conducive to the inception and progress of disease by decreasing the circulation and alkalinity of the fluids of the mouth."

A strongly-grounded belief undoubtedly exists with the public, extending to some considerable degree to the profession, that alkaline dentifrices are universally indicated in the care of the teeth and that preparations of acid reaction not only are contraindicated, but that they are distinctly harmful; consequently a statement from any source that acid mouth-washes are beneficial is regarded by many as a departure from recognized procedure and theory, a radical innovation which deserves discouragement, or, at best, guarded consideration. That the recommendation to use acid dentifrices is new is an entirely

mistaken idea, as their employment was strongly advised some fifty years ago by numerous medical writers and teachers of distinction, a popular tooth powder of that period being a mixture of equal parts of potassium bitartrate (cream of tartar), myrrh and rhatany root (krameria). Redwood's supplement to the "British Pharmacopœia," 1856, page 702, cites three formulæ for dentifrices in which the prominent ingredient is cream of tartar.

A careful review of the pages of these old text-books will disclose many doctrines relating to the care of the teeth and mouth that are strikingly in accord with recent scientifically proven measures for the advancement of oral hygiene.

More than half a century ago the continuous employment of insoluble tooth powders was decried, their use declared objectionable, "since they are apt to accumulate in the space formed by the folds of the gums and the neck of the tooth."

Tooth powder and paste dentifrices in general use today very generally consist of alkaline, antiacid, insoluble substances of a degree of fineness which facilitates their introduction beneath the gum margins during the process of brushing the teeth, thus forming the beginning of lesions which in due time serve to form a very secure habitation for micro organisms, and one admirably suited for their proliferation, a procedure markedly encouraged by the pernicious effect which the frequent application of alkaline substances exert upon the protective qualities of the salivary fluids.

Reasoning from the foregoing deductions, it appears quite reasonable to suppose that the continuous use of insoluble dentifrices of alkaline reaction actually favors dental decay and the impairment of the health of the gum tissues. It would also appear that a salivary stimulant, such as may be selected from one of the organic fruit acids, together with a suitable proportion of the amœbacide, ipecac and a compatible antiseptic solution, should be incorporated in a mouth wash for the prophylaxis of amœbic pyorrhea. Boric acid being entirely compatible with bitartrate of potassium, the addition of Listerine will not only safeguard the keeping qualities of that solution, but will afford that measure of antiseptic influence which has proved so desirable in inhibiting the numerical increase of the bacteria of the mouth.

BAD BOYS REQUIRE GOOD TEETH

By Chas. D. Hilles, Former Sec'y to Ex-Pres. W. H. Taft

[It is indeed seldom that a secretary to the president gets down, or gets up, to say something for dentistry, yet the following from President Hilles, now of the New York Juvenile Asylum, tells a good story, and it has truth in it.—Editor.]

"Acting on the premise that the bad boy is generally a sick boy," says Mr. Hilles, "we determined some time ago to maintain a thorough physical study of the youngsters sent to us. Sixty-five per cent of them were anæmic, the result of poor food and irregular habits of living. To this half-starved condition could be attributed the waywardness and apparent viciousness of the boys. Their low stage of physical development had made them careless. Physically, their fibre was weak; their mentality and morality suffered accordingly.

"Then we went further and sought for the physical cause of the anæmic condition of our charges. We found that more than 90 per cent of the boys, and they were all under 15 years of age, came to us with bad teeth. For years those boys had not been able to chew their food properly. They had acquired the habit of bolting everything they put into their mouths.

"Immediately upon admission to the Children's Village the boy is sent to the dentist, who makes a searching examination of his teeth. All possible repairs are made; finanlly there is a thorough cleansing of the teeth. Then the boy is sent to his room, armed with a tooth-brush and with paste. He experiences so much relief, and experiences it so quickly, that almost always the boy is glad to give to his mouth and to his teeth the necessary attention. Regularly every six months each boy in the village visits the dentist. Never again, so long as he is with us, is he permitted to suffer because his teeth lack attention. I believe that we are right when we say the dentist is the greatest influence for good known to us. More than 90 per cent of our boys make good and are successful after they leave us."

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